

# Activities to Reduce and Recover Food Waste

Strategies presented at the 2011 WORKS! Conference  
Wichita Hyatt Regency, March 22, 2011  
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Our Mission – To Protect the Health and Environment of All Kansans by Promoting Responsible Choices

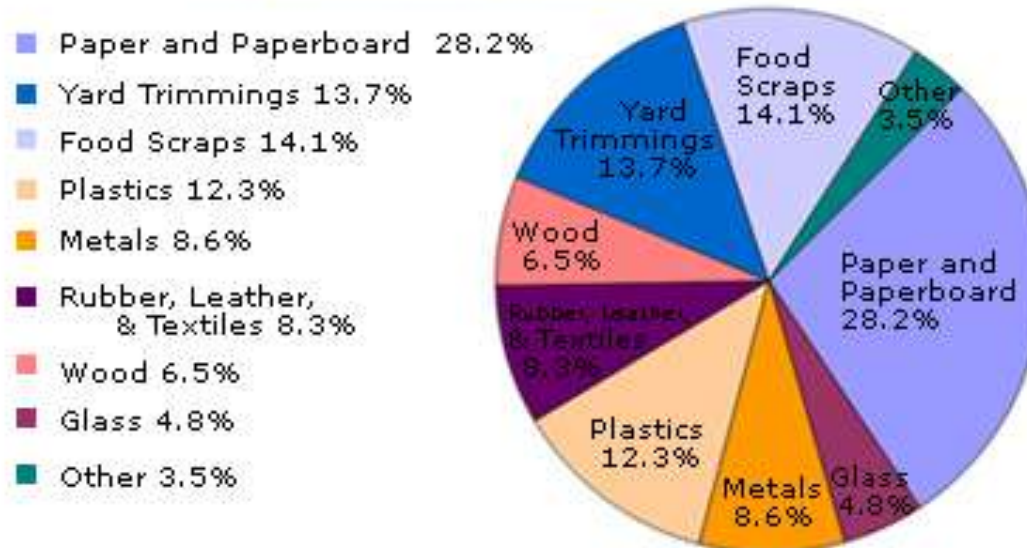
Our vision – Healthy Kansans Living in Safe and Sustainable Environments.



- Help your community meet local and state **waste reduction goals**;
  - **Donate** food to the needy;
  - Recover the nutrient value of the food as **compost** or **animal food**;
  - Avoid trash collection and disposal fees;
  - Sustain **local industries and jobs**; and
  - Create an improved **public image** for your business.
- Source: EPA Fact Sheet **Don't Throw Away That Food** EPA-530-F-98-023 September 1998

## Why does it matter?

**Total MSW Generation (by Material), 2009**  
**243 Million Tons (Before Recycling)**



EPA Report of Total Municipal Solid Waste  
Generation, 2009



# Source Reduction

Pre and Post Consumer Waste, and Purchasing

## Reduce **pre**-consumer kitchen waste

- Modify your ordering and purchasing – both quantities and timing.
- Re-evaluate production and handling practices.
- Review your menus to see if certain items account for excessive prep waste.
- Consider secondary uses for excess food - leftover bread becomes croutons, and excess rice becomes fried rice.

## Reduce **post** consumer food waste

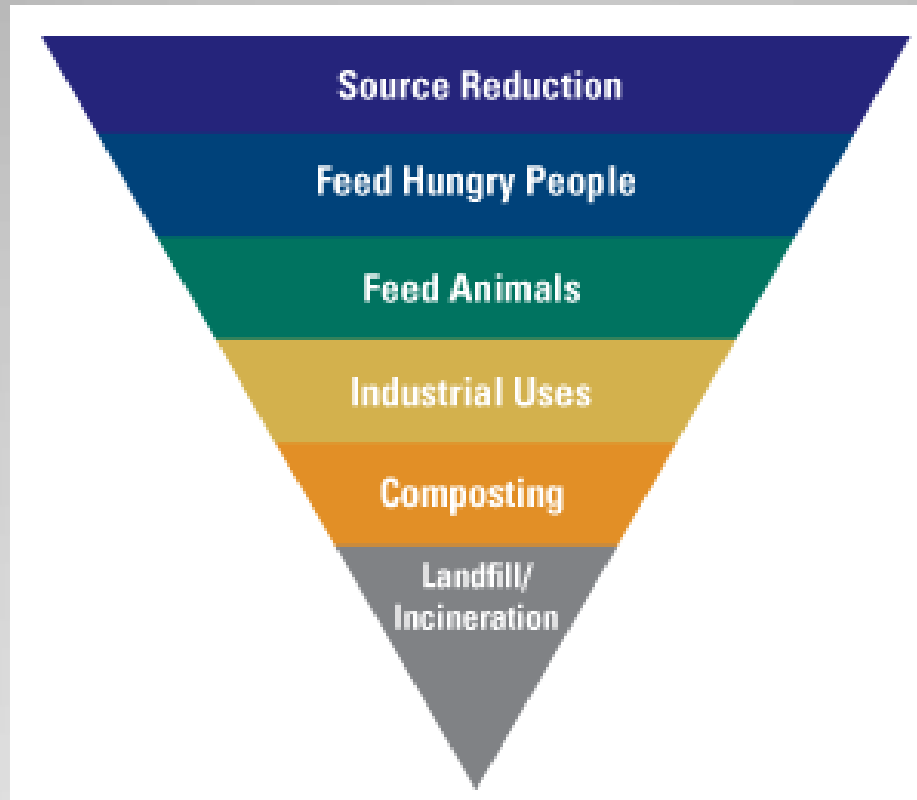
- Portion control - eliminate excessive portion sizes.
- Tray-less dining - especially beneficial in college, military & institutional cafeterias.
- Menu modifications - pay attention to entrees and sides that are left on the diner's plate.

# Pre and Post Consumer

## **Re-think purchasing practices**

- Incorporate environmental specifications into your supplier contracts and guidelines.
- Look for products that still meet your needs but have a better “environmental profile” than your current products.
- Use dishwashers and reusable service ware.
- Look for EPA Energy Star and WaterSense kitchen equipment.
- Purchase condiments and other food supplies in bulk.

# **Purchasing**



## Donation and Reuse

**Feed People, Feed Animals, Industrial Uses**

## Feed People

- Start a relationship with a **Food Bank** or Rescue Program in your area to donate excess food.

....get your surplus food to the needy.

## Feed Animals

- Start a relationship with local farmers to donate food waste.  
(Dept of Ag rules)
- Donate pre-consumer food waste to a local Zoo animals

(usually with free hauling)

# Feed People and Animals

## Solid Food

- Edible – follow food safety for **donation**
- Food waste – pre consumer segregated dairy, bread straight to **animal feed**
- **Source Separate** waste for compost- use covered containers that can be washed

## Waste Oils and grease

- Save “free grease” for possible rendering into a dry stable “value” product.
- “Trap grease” is usually pumped out for a fee for disposal.

**Managing food wastes for beneficial use**

# Industrial Uses

- Because oil, fat, and grease byproducts generated from butter, lard, fats and oils, (and meats) should be kept out of the drains.....
- Explore opportunities for donating to the rendering industry or selling for **biodiesel**.

(benefit by avoiding hauling costs...and you earn revenue from this resource!)

**Reuse**



# Composting

On of Off Site Composting and Vermi-composting

- Participate in an existing composting program in your area.
- Because adding food wastes requires different management.....
- If no composting programs already exist in your area, create an on-site composting program.

contact KDHE for  
permitted sites listing.

## On or Off Site Composting

## Off-Site Composting

- Compost and public water treatment return carbon to the earth, and avoid anaerobic decomposition in landfills that generates methane.....which may not be captured fully.
- Fruits, vegetables, dairy products, grains, breads, unbleached paper, napkins, coffee filters, eggshells, meats, and newspaper can be composted. If it can be eaten or grown in a field, it can be composted.

## **On Site      Vermi-Composting**

- Uses worms (usually red worms) to digest the food scraps.
- Requires daily monitoring to ensure healthy colony.
- Produces a high-quality compost.
- This method is faster than windrow or in-vessel composting.
- Animal products or grease cannot be composted using this method.
- Limited by Temperatures.

## **In-Vessel Composting**

- Uses a closed system to compost food scraps.
- Requires daily monitoring of temps and moisture.
- Up front cost of equipment.
- Usually takes a few weeks, can be a year round process.
- Produces valuable bi-product.



# Waste Reduction Goals

Food Waste Audits and Zero Waste

- Food waste weighs up to 1500# per cubic yard.
- Consider removing the water with **extractors** to reduce your costs of hauling to compost or landfill.
- New technology can “process” waste on-site with shredders and heat, reducing weight and volume up to 90%.
- **Pulpers** can put it down the drain, but you have upfront costs. Check with your municipality for restrictions.
- Food waste averages 75% water! – water is needed in **compost operations**, causes effluent in landfills and is the carrier in public water treatment.

## Waste Reduction equipment

- Less than 3% of “food waste” is currently diverted.
- Opportunity for real waste reduction!!
- Frito Lay facility in Topeka sends only 1% of it's solid waste to the landfill, How?  
...they have a onsite burner.

**Zero Waste possibilities**

# Waste Audit

- Locate a place to work where you can spread a plastic sheet on the floor for sorting.
- Work with the janitorial or kitchen staff ahead of time.
- You will need 2-3 people for this work

## Equipment

**5-gallon buckets or containers**

**Tarp or plastic sheet**

**Gloves and aprons**

**Closed, non-slip shoes**

**Trash bags**

**Scale**

**Worksheet and clipboard**

# Sampling

- Source separated –vs– waste sorting.
- Collect exactly 24 hours of waste on your busiest day.
- Choose 25-30% for your sample (3 bags out of 12)

## Conduct the audit

1. Count the total number of bags and weigh each one.
2. Identify the bags with respect to its source.
2. Label
3. Weigh one bag, place it on the tarp.
4. Categorize materials into buckets
5. Weigh materials
6. Re-bag and dispose.

# Hyatt waste audit

August 2010 - 123 pound sample:

- 56 pounds food waste or 45% of the total.  
(Potential to generate 100-300# per day!)
- 24 pounds of trash and 25 pounds of glass or 40% of the total.
- The rest was paper, and aluminum.

## Staff

**Mike Gruning – Director of Engineering**

**Omar Romero – Stewards Manager**

**Paul Freimuth – Executive Chef.**



**Lets go audit!**